

NOMINAL CHAMBER SPECIFICATION
SIZE (W x H x INSTALLED LENGTH) 51.0" x 30.0" x 85.4" (1295 mm x 762 mm x 2169 mm)
CHAMBER STORAGE 45.9 CUBIC FEET (1.30 m³)
MINIMUM INSTALLED STORAGE 74.9 CUBIC FEET (2.12 M³)
WEIGHT 75 lbs. (33.6 kg)

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "I"

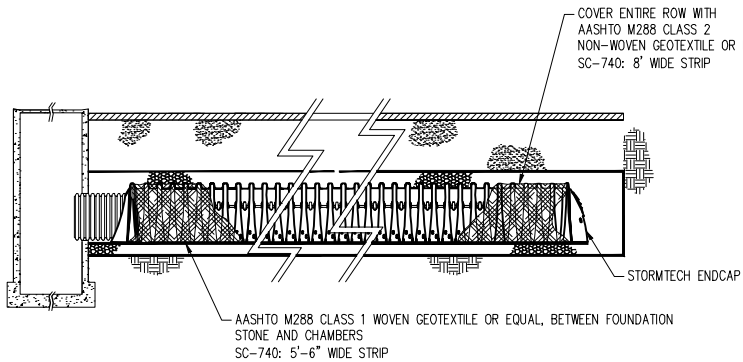
PART#	STUB	A	B	C
SC740EPE06T	6" (150 mm)	10.90" (277 mm)	8.50" (470 mm)	N/A
SC740EPE06B	6" (150 mm)	10.90" (277 mm)	N/A	0.50" (13 mm)
SC740EPE08T	8" (200 mm)	12.20" (310 mm)	16.50" (419 mm)	N/A
SC740EPE08B	8" (200 mm)	12.20" (310 mm)	N/A	0.60" (15 mm)
SC740EPE10T	10" (250 mm)	13.40" (340 mm)	14.50" (368 mm)	N/A
SC740EPE10B	10" (250 mm)	13.40" (340 mm)	N/A	0.70" (18 mm)
SC740EPE12T	12" (300 mm)	14.70" (373 mm)	12.50" (318 mm)	N/A
SC740EPE12B	12" (300 mm)	14.70" (373 mm)	N/A	1.20" (30 mm)
SC740EPE15T	15" (375 mm)	18.40" (467 mm)	9.00" (229 mm)	N/A
SC740EPE15B	15" (375 mm)	18.40" (467 mm)	N/A	1.30" (33 mm)
SC740EPE18T	18" (450 mm)	19.70" (500 mm)	5.00" (127 mm)	N/A
SC740EPE18B	18" (450 mm)	19.70" (500 mm)	N/A	1.60" (41 mm)
*SC740EPE24B	24" (600 mm)	18.50" (470 mm)	N/A	0.10" (3 mm)

ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

*FOR THE SC740EPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

STORM CHAMBER TECHNICAL SPECIFICATIONS N.T.S.



ISOLATOR ROW PROFILE N.T.S.

1.0 GENERAL

- 1.1 INSTALLING CONTRACTOR SHALL USE AND UNDERSTAND MANUFACTURE'S LATEST INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION.
- 1.2 CONTRACTOR SHALL ARRANGE A PRE-INSTALLATION CONSULTATION WITH MANUFACTURE'S REPRESENTATIVES TO ANSWER QUESTIONS OR ADDRESS COMMENTS ON THE CHAMBER SYSTEM AND INFORM THE INSTALLING CONTRACTOR OF THE MINIMUM INSTALLATION REQUIREMENTS BEFORE BEGINNING THE SYSTEM'S CONSTRUCTION.
- 1.3 THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE DESIGN ENGINEER.
- 1.4 AASHTO M288 CLASS 2 NON-WOVEN GEOTEXTILE (FILTER FABRIC) MUST BE USED AS INDICATED IN THE PROJECT PLANS.
- 1.5 STONE PLACEMENT BETWEEN CHAMBERS ROWS AND AROUND PERIMETER MUST FOLLOW INSTRUCTIONS AS INDICATED IN THE MOST CURRENT VERSION OF THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- 1.6 BACKFILLING OVER THE CHAMBERS MUST FOLLOW REQUIREMENTS AS INDICATED IN THE MOST CURRENT VERSION OF THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- 1.7 THE CONTRACTOR IS RESPONSIBLE FOR PREVENTING VEHICLES THAT EXCEED THE MANUFACTURER'S REQUIREMENTS FROM TRAVELING ACROSS OR PARKING OVER THE STORMWATER SYSTEM. TEMPORARY FENCING, WARNING TAPE AND APPROPRIATELY LOCATED SIGNS SHALL BE USED TO PREVENT UNAUTHORIZED VEHICLES FROM ENTERING SENSITIVE CONSTRUCTION AREAS.
- 1.8 THE CONTRACTOR MUST APPLY EROSION AND SEDIMENT CONTROL MEASURES TO PROTECT THE STORMWATER SYSTEM DURING ALL PHASES OF SITE CONSTRUCTION PER THE EROSION AND SEDIMENT CONTROL PLAN.

2.0 CHAMBERS

- 2.1 CHAMBERS SHALL BE STORMTECH SC-740 OR APPROVED EQUAL.
- 2.2 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418-05, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- 2.3 CHAMBERS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

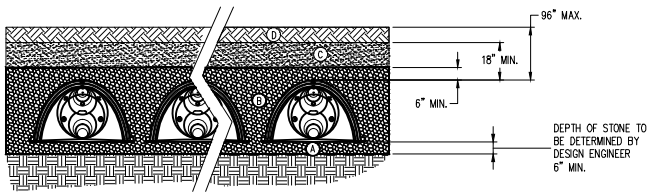
ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEM

MATERIAL LOCATION	DESCRIPTION	AASHTO M43 DESIGNATION ⁽¹⁾	COMPACTION/DENSITY REQUIREMENT
① FILL MATERIAL FOR LAYER D STARTS FROM THE TOP OF THE C LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISH GRADE ABOVE. NOTE THAT PAVEMENT SUB-BASE MAY BE PART OF THIS LAYER.	TOPSOIL	N/A	
③ FILL MATERIAL FOR LAYER C STARTS FROM THE TOP OF THE EMBEIMENT STONE (B LAYER) TO 18" ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUB-BASE MAY BE A PART OF THIS LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, < 35% FINES.	3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTION AFTER 12" OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" LIFTS TO A MIN. 95% STANDARD PROCTOR DENSITY (g). ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs. DYNAMIC FORCE NOT TO EXCEED 20,000 lbs.
⑥ EMBEIMENT STONE SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE (A LAYER) TO THE C LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4 - 2 INCH	3, 357, 4, 457, 5, 56, 57	NO COMPACTION REQUIRED.
④ FOUNDATION STONE BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4 - 2 INCH	3, 35, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A 95% STANDARD PROCTOR DENSITY ⁽²⁾

PLEASE NOTE:

1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".

2. AS AN ALTERNATE TO PROCTOR TESTING AND FIELD DENSITY MEASUREMENTS IN OPEN GRADED STONE, STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (MAX) LIFTS USING TWO FULL COVERAGES WITH AN APPROPRIATE COMPACTOR.



STORM CHAMBER SYSTEM ACCEPTABLE FILL N.T.S.

- 2.4 CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS.
 - 2.5 THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12 ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCE.
 - 2.6 IF CONTRACTOR PLANS TO USE A CHAMBER IN LIEU OF THAT SPECIFIED, THE CONTRACTOR SHALL SUBMIT (3 SETS) OF THE FOLLOWING TO THE ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
 - a. A STRUCTURAL EVALUATION BY A REGISTERED STRUCTURALENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12 ARE MET. THE 50-YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418-05 MUST BE USED AS A PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
 - b. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL CROSS SECTION IS BASED.
 - 2.7 ALL DESIGN SPECIFICATIONS FOR CHAMBERS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S LATEST DESIGN MANUAL.
 - 2.8 THE INSTALLATION OF CHAMBERS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S LATEST INSTALLATION INSTRUCTIONS.
 - 2.9 THE CHAMBER SHALL BE INJECTION MOLDED OF POLYPROPYLENE RESIN TO BE INHERENTLY RESISTANT TO ENVIRONMENTAL STRESS CRACKING (ESCR), AND TO MAINTAIN ADEQUATE STIFFNESS THROUGH HIGHER TEMPERATURES EXPERIENCED DURING INSTALLATION AND SERVICE.
 - 2.10 THE CHAMBER SHALL HAVE A CONTINUOUSLY CURVED SECTION PROFILE.
 - 2.11 THE CHAMBER SHALL BE OPEN-BOTTOMED.
 - 2.12 THE CHAMBER SHALL INCORPORATE AN OVERLAPPING CORRUGATION JOINT SYSTEM TO ALLOW CHAMBER ROWS OF ALMOST ANY LENGTH TO BE CREATED. THE OVERLAPPING CORRUGATION JOINT SYSTEM SHALL BE EFFECTIVE WHILE ALLOWING A CHAMBER TO BE TRIMMED TO SHORTEN ITS OVERALL LENGTH.
 - 2.13 THE CHAMBER SHALL HAVE A MINIMUM OF FORTY-EIGHT ORIFICES PENETRATING THE SIDEWALLS TO ALLOW FOR LATERAL CONVEYANCE OF WATER.
 - 2.14 THE CHAMBER SHALL HAVE TWO ORIFICES NEAR ITS TOP TO ALLOW FOR EQUALIZATION OF AIR PRESSURE BETWEEN ITS INTERIOR AND EXTERIOR.
 - 2.15 THE CHAMBER SHALL HAVE BOTH OF ITS ENDS OPEN TO ALLOW FOR UNIMPEDED HYDRAULIC FLOWS AND VISUAL INSPECTIONS DOWN A ROW'S ENTIRE LENGTH.
 - 2.16 THE CHAMBER SHALL HAVE A MIN. 14 CORRUGATIONS.
 - 2.17 THE CHAMBER SHALL HAVE A CIRCULAR, INDENTED, FLAT SURFACE ON THE TOP OF THE CHAMBER FOR AN OPTIONAL 4-INCH INSPECTION PORT.
 - 2.18 THE CHAMBER SHALL BE ANALYZED AND DESIGNED USING AASHTO METHODS FOR THERMOPLASTIC CULVERTS CONTAINED IN THE LRFD BRIDGE DESIGN SPECIFICATIONS, 2ND EDITION, INCLUDING INTERIM SPECIFICATIONS THROUGH 2001. DESIGN LIVE LOAD SHALL BE THE AASHTO HS20 TRUCK. DESIGN SHALL CONSIDER EARTH AND LIVE LOADS AS APPROPRIATE FOR THE MINIMUM TO MAXIMUM SPECIFIED DEPTH OF FILL.
- ### 3.0 END CAPS
- 3.1 END CAPS SHALL BE STORMTECH OR APPROVED EQUAL
 - 3.2 END CAPS WITH PREFABRICATED PIPE CONNECTIONS SHALL BE INJECTION MOLDED FROM POLYETHYLENE RESIN.
 - 3.3 THE END CAP SHALL BE DESIGNED TO FIT INTO ANY CORRUGATION OF A CHAMBER, WHICH ALLOWS: CAPPING A CHAMBER THAT HAS ITS LENGTH TRIMMED; SEGMENTING ROWS INTO STORAGE BASINS OF VARIOUS LENGTHS.
 - 3.4 THE END CAP SHALL HAVE SAW GUIDES TO ALLOW EASY CUTTING FOR VARIOUS DIAMETERS OF PIPE THAT MAY BE USED TO INLET THE SYSTEM.
 - 3.5 THE END CAP SHALL HAVE EXCESS STRUCTURAL ADEQUACIES TO ALLOW CUTTING AN ORIFICE OF ANY SIZE AT ANY INVERT ELEVATION.
 - 3.6 THE PRIMARY FACE OF AN END CAP SHALL BE CURVED OUTWARD TO RESIST HORIZONTAL LOADS GENERATED NEAR THE EDGES OF BEDS.
 - 3.7 THE END CAP SHALL BE MANUFACTURED IN AN ISO 9001:2000 CERTIFIED FACILITY.

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NORTH BUSINESS DEVELOPMENT AREA

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Signature *Scott T. Stempihar*
Typed Name SCOTT T. STEMPIHAR
Date 08/18/09 Reg. No. 47565

REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED: 08-18-2009
REVIEWED BY: PJM
DRAWN BY: SCA
DESIGNED BY: STS

AEP PROJECT NUMBER
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SHEET TITLE

STORM CHAMBER SYSTEM DETAILS AND NOTES

SHEET NUMBER
C507
BID
DOCUMENTS